

Education

- **Univeristy Of Pennsylvania**, Philadelphia, PA.
Ph.D., *Computer Science*. 2021 - 2026
Advisor: Benjamin C. Pierce
- **Wesleyan University**, Middletown, CT.
B.A., *Computer Science* (with High Honors) and *Mathematics*. 2017 - 2021
GPA: 3.98/4.0

Work and Research Experience

- **Jane Street**, Quantitative Trading Intern (Summer 2026)
(Incoming)
- **Jane Street**, Software Engineering Intern. (Summer 2025)
Ultra-Low-Latency Trading and OCaml Compiler teams.
- **Nvidia**, Machine Learning Compilers Research Intern. (Summer 2024)
Worked on a language for specifying GPU compiler optimizations.
- **Amazon Web Services**, Applied Scientist Intern. (Summer 2022)
Proved type safety of the Cedar authorization language.
- **Correct Computation**, Technical Intern. (Summer 2021)
Worked on a dynamic binary analysis tool.

Selected Awards

- *Jane Street Graduate Research Fellowship Honorable Mention*. (2025)
- *NSF Graduate Research Fellowship*. (2022-2025)

Conference Papers

- (POPL 2026) *Typing Laziness*
Daniel Sainati, **Joseph W. Cutler**, Benjamin C. Pierce, Stephanie Weirich
- (Submitted) *Fail Faster: Staging and Fast Randomness for High-Performance PBT*
Cynthia Richey ★, **Joseph W. Cutler** ★, Harrison Goldstein, Benjamin C. Pierce
★ Authors Contributed Equally
- (CGO 2025) *Pattern Matching in AI Compilers and its Formalization*
Joseph W. Cutler, Alex Collins, Bin Fan, Mahesh Ravishankar, Vinod Grover.
- (PLDI 2024) *Stream Types*
Joseph W. Cutler, Christopher Watson, Emeka Nkurumeh, Phillip Hilliard, Harrison Goldstein, Caleb Stanford, Benjamin C. Pierce.
- (OOPSLA 2024) *Cedar: A New Language for Expressive, Fast, Safe, and Analyzable Authorization*
Cutler★, Disselkoen, Eline, He, Headley, Hicks, Hietala, Ioannidis, Kastner, Mamat, McAdams, McCutcheon, Rungta, Torlak, Wells.
★ Authors listed alphabetically
- (ICSE 2024) *Property-Based Testing in Practice (Distinguished Paper Award)*
Harrison Goldstein, **Joseph W. Cutler**, Daniel Dickstein, Benjamin C. Pierce, Andrew Head.
- (ICFP 2020) *Denotational Cost Semantics for Amortized Analysis*
Joseph W. Cutler, Daniel R. Licata, and Norman Danner.